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Since the 5th ultimo no fresh case has been seen by foreign doctors, but they report a high rate of mortality. The priests absolutely refuse to allow the doctors to see any affected patients, and the Government here maintains that the plague does not exist. The great heat and the very unusual dryness of the atmosphere will probably circumscribe the effects of the disease, and, it is to be hoped, put a stop to it altogether.

Respectfully, yours, JOHN TYLER,
Vice-Consul-General, In Charge.

The honorable the ASSISTANT SECRETARY OF STATE.

TURKEY.

[Report No. 224.]

Sanitary report from Constantinople—Plague in Djiddah.

THE LAST PLAGUE EPIDEMIC IN DJIDDAH.

CONSTANTINOPLE, *July 29, 1899.*

SIR: The sanitary reports sent by the sanitary physicians who acted in the Red Sea during the last pilgrimage are at hand. I am consequently able to give some further details on the pilgrimage, namely, on the last outbreak of plague in Djiddah.

The number of pilgrims who have undergone quarantine in the lazaretto of Camaran, on their way to the Holy Land of Tslam, is 14,074. They were transported by 24 steamships and 12 sailing vessels. The steamers were English, 19; Dutch, 3; and Ottoman, 2. The sailing vessels were Ottoman, 11, and French, 1.

These 14,074 pilgrims were embarked at the harbors of Singapore, Chittagong, Bassorah, Soerabuya, Probolingo, Muscat, Makalla, Bahrein, Udjira, and Aden. During the quarantine of said pilgrims, 460 disinfecting operations by the disinfecting oven were performed. In every operation of disinfection the wearing apparel and the belongings of 30 pilgrims were disinfected.

Besides the presence of pneumonic plague cases on which I have already laid stress in my report No. 217, dated May 12, there were 3 smallpox deaths, 2 from enteritis chronica, 2 from dysentery, 6 from heart disease, 1 from sunstroke, and 2 from typhoid fever. Dr. Crendiropulos, who gives the above-mentioned details, says in his general report dated Camaran, April 25, 1899, "a complete bacteriological laboratory in Camaran is indispensable." He expresses his opinion in a masterly way, stating that many times the sanitary physician could not make a diagnosis without the aid of the microscope. Bronchitis, as well as pneumonia, for instance, could not be known as having their origin in plague without seeing the microbe in the microscope. This he writes is a real danger for the sanitary physician, because said illnesses can not be otherwise recognized. It is not the question of cholera, the symptoms of which are striking and very easily recognizable. A slight diarrhea, a slight bronchitis, or a rising of the body temperature, would it not be suspicious? But how to ascertain it? How could he reasonably oblige a thousand or more pilgrims to undergo a ten or fifteen days' longer quarantine only because among them there are a few who suffer from a light bronchitis or single fever; or if we suppose that among said thousand pilgrims there are 2 or 3 presenting buboes, how could he know that there is a question of plague? Said fact has occurred at the lazaretto of Camaran where very stringent steps have been taken as excessive or useless. The duration of quarantine has been lengthened and all that, as it has been seen *a posteriori*, without any reason.

Thanks to experimental sciences, the veil by which medicine did like to cover itself has been torn off. Said experimental sciences have traced to medicine a new way, more difficult certainly, not quite undiverted, but undoubtedly sure. "We must," Dr. Crendiropulos says in his report, "follow said way. It is not possible to stop and stay where we are."

"Camaran is an exceptional place, " he continues, "unique for the scientific problems to be solved. Science will profit very much from the bacteriological experience at Camaran, which must not be fitted only for epidemiological, but for hygienic work also." It must, therefore, be completely furnished with all the indispensable apparatus for the multifarious work of scientific investigation.

The question of diagnosis must be quite a secondary one. Clinic must not give the precedence to the microscope. "It is only," he continues, "in those cases where diagnosis is difficult and where by his judgment and imagination the sanitary physician has to reconstitute the clinical picture (le tableau clinique). It is not, we must avow, the surest way to make a diagnosis. The only way is to have recourse to the microscope, which only can decide." We have a convincing example in what has occurred at the lazaretto of Tor in 1897. Mr. Ruffer, the president of the International Sanitary Commission in Alexandria, separated from the dejecta of simple diarrhea a comma bacillus which gave all the reactions of the cholera bacillus.

This discovery was an embarrassing one indeed, but at the same time the most interesting for epidemiology. He concludes by insisting upon the indispensable necessity of instituting a bacteriological laboratory (against the institution of which a member of the superior council of health has protested) which will demonstrate how the different epidemic diseases enter the lazaretto and the influence of the climate and water on the different microbes, and, finally, the action of the disinfecting furnace on them. I recall that Dr. Crendiropulos is the sanitary inspector of Camaran, who has diagnosed plague by examining the sputa of pilgrims who were suffering from bronchitis. (See my report 217, May 12.)

PRESENT PLAGUE EPIDEMIC IN DJIDDAH.

Dr. Ferid Ibrahim reports about the plague in Djiddah under date of June 17 last. He states the outbreak of the epidemic of plague this year is not due to importations. Very probably the very first case of plague was that of a beggar from Assyr, who was at the same time a gravedigger. Said beggar fell ill about ten days after he dug a grave. It is not possible to ascertain whether said grave did not belong to somebody dead last year from plague. No care has been taken to bury separately the corpses of persons dead from plague. All the corpses have been indifferently buried in the three graveyards of Djiddah.

The same carelessness still exists and the gravediggers dig indiscriminately among graves containing these corpses months or one or more years since. It is known how resistant is the Yersin-Kitasato microbe. The disease spreads very quickly in all the quarters of Djiddah, especially among the low class, which is composed of Hadramouts. It was very difficult to make a study of the disease on account of the fanatical resistance of the population. The physicians of Djiddah have been hardly able to observe 10 plague cases during life; the rest have been after death.

The spread of the epidemic has been direct from patients, and it has been easy to follow the spread of the malady among the different members of a family living separately. This year no epidemic among rats has been observed as in the epidemics of previous years; not a single dead rat has been brought to the sanitary authorities, though 2 piasters for each rat had been promised. The carcasses of some mice or rats found by the physicians, did not present any plague sign in the postmortem examination. Dr. Ferid Ibrahim does not attribute to fleas the spread of the epidemic in Djiddah, as Dr. Yersin admits for the epidemic of plague at Natrong, for, he states, fleas in Djiddah are but very few comparatively.

THE BACILLUS OF PLAGUE.

The pathogeny of plague in Djiddah is due to a short bacillus found in all the suspected cases examined during the present epidemic. It presented morphological as well as experimental characters like the Yersin-Kitasato bacillus. In the human organism said bacillus exists always alone. When taken from the buboes it is shorter than that taken from the blood. Sometimes it presents itself in a conical shape. Dr. Ferid Ibrahim has not met that shape of which Dr. Yersin gives a description, according to which said bacillus looks like it is bordered by a capsule. The plague bacilli inoculated in rabbits look longer and sometimes joined two together.

It is colored with the different aniline dyes which it loses by the Gram or Claudius process. It does not liquefy gelatine nor coagulated serum, nor milk, in which it does not grow easily. It is in said liquids that cultures become characteristic, namely, when they stay long enough to develop fully. Thirty-five hours after, flakes are formed which settle on the walls of the tube. The best temperature for said development is between 31° and 33° C. It was on 13 corpses that Dr. Ferid Ibrahim studied said plague bacillus. Of these 13 corpses, 12 were in Djiddah and 1 in Mecca. Nearly all of them presented the path of entry on the member corresponding to the bubo. Only once Dr. Ferid Ibrahim has been able to isolate the bacillus from a patient. It was from that patient on whom serotherapy was tried. On three out of four said bacillus has been found in the foam which was in the mouth and nose of the corpses, as well as in the sputa of an Indian woman.

SYMPTOMATOLOGY.

The illness begins by a chill followed by fever. The temperature of the body is 39.5° to 41° C. Very rarely it is below 39°. A few hours later the bubo appears. In some cases the bubo appears before the above-mentioned symptoms. The tongue is furred, presenting a red ribbon in the middle. The other symptoms resemble those of nearly all the grave zymotic diseases. Of more than 100 bubonic plague cases the bubo was single in the groin. Said bubo appears rather rarely in the neck or in the armpit. The buboes on the neck have been observed in a large number of cases after a strong south wind blew—very damp—in consequence of which the city of Djiddah was for several days in a whirlwind of dust. Dr. Ferid Ibrahim believes that said buboes on the neck must be attributed to said dust, full of plague bacilli, laid on the skin, wherefrom they were carried by the lymphatic afferent vessels to the lymphatic ganglia of the neck. The duration of the disease was rather long. Death generally occurred the fifth or the sixth day after the outbreak.

INJECTIONS OF SERUM IN A CASE OF PLAGUE.

In 1 case only it has been possible to apply treatment. It was on a colored man, in whom 130 c. c. of serum were injected—serum antipestoxine, prepared at the Institute of Experimental Medicine in St. Petersburg, and brought to Djiddah by Dr. Sokoloff. Said injection was performed 4 times at intervals of twenty or twenty-four hours. The result of said serotherapy in the first days was remarkable. Delirium, as well as the bubo, evidently subsided. The temperature, which was 41.1°, dropped to 37.8° C. after the third injection. Everything was all right and the physicians thought they ought to interrupt the treatment. Next day the temperature rose again, and the fourth injection could not prevent the case proving fatal.

PROGNOSIS.

Not knowing exactly the number of the surviving patients, it is not possible to have an idea of the death rate of plague; but the author of the report, Dr. Ferid Ibrahim, believes it was not less than 70 per cent.

Concluding, Dr. Ferid recapitulates and states that the outbreak of plague in Djiddah this year is not to be attributed to importation, but to the recrudescence of the germs of last year. Its spread has been by direct contamination from man to man. The bacteriological researches prove the identity of said epidemic to the epidemics of India as well as to that of last year in Djiddah. Said illness does not look as contagious as it is generally thought. The bacillus pestis is a microbe essentially septicæmic in many animals. In man it causes frequently but a local disease. It can not enter man's organism except through a solution of continuity in his integuments, which can be constantly found in the patients. The course of the illness is a little longer than it was in Bombay. The prognosis very grave.

POSSIBILITY OF PLAGUE IN MECCA.

About Mecca, Dr. Ferid Ibrahim says that though he has not been able to thoroughly consider the question of the possibility of the outbreak of plague in the latter city, he thinks that the climatic condition of said city does not allow the growth and development of plague bacilli to which it is refractory like Versailles in France is refractory to cholera. In fact, and in spite of the uninterrupted communications between Djiddah and Mecca, plague has not made its appearance there. The 4 plague cases observed this year, of which 1 was in Mina, were on persons who arrived from Djiddah.

SANITARY NEWS FROM THE OTHER PROVINCES OF THE TURKISH EMPIRE.

From the sanitary reports received here from the other provinces of the Turkish Empire we know that the public health there is good. The sanitary physician at Trebizonde states that the epizooty in oxen (*pestis bovina*) which broke out in the surroundings of Trebizonde in the beginning of last May has been stifled by the injections of serum prepared in the bacteriological institute at Constantinople.

I have the honor to forward a French copy of three reports of Dr. Cozzonis, the inspector-general of the sanitary service about the epidemic of plague in Djiddah and the lazarettos of Tor and Clazomen. One of these three reports is printed. A French copy of the Sanitary News concerning the plague manifestations at Bushir in Persia, forwarded by Dr. Moschides the Bassorah sanitary physician. A French copy of the decision of superior sanitary council of Constantinople concerning the sanitary service to be established on the Nedjid coast. A French copy of the decision of the Alexandria International Sanitary Commission concerning the transit, in quarantine, of the Suez Canal, and a French copy of epizootic bulletin, as well as the decision of the superior sanitary council of Constantinople, by which the duration of quarantine against Egypt is reduced to ten days. * * *

Respectfully, yours, SPIRIDION C. ZAVITZIANO,
United States Sanitary Commissioner.

FOREIGN STATISTICAL REPORTS.

AUSTRALIA—*New South Wales—Sydney.*—Month of June, 1899. Estimated population, 426,950. Total number of deaths, 454, including diphtheria, 3; enteric fever, 6; scarlet fever, 2, and 3 from whooping cough.

BAHAMAS—*Dunmore Town.*—Two weeks ended August 18, 1899. Census population, 1,472. No deaths and no contagious diseases reported.

Governors Harbor.—Two weeks ended August 18, 1899. Estimated population, 1,500. Total number of deaths, 1. No contagious diseases reported.

Green Turtle Cay—Abaco.—Two weeks ended August 17, 1899. Estimated population, 3,900. No deaths and no contagious diseases reported.

Nassau.—Two weeks ended August 21, 1899. Estimated population, 12,000. No deaths and no contagious diseases reported.

BERMUDA—*Hamilton.*—Two weeks ended August 4, 1899. Estimated population, 15,013. Total number of deaths, 1. No contagious diseases reported.

CANADA—*Manitoba—Winnipeg.*—Week ended August 19, 1899. Estimated population, 50,000. No deaths and no contagious diseases reported.

CHILE—*Iquique.*—Four weeks ended July 29, 1899. Estimated population, 33,106. Total number of deaths, 95, including 2 from enteric fever.

FRANCE—*Nantes.*—Month of July, 1899. Estimated population, 200,000. Total number of deaths, 208, including diphtheria, 1, and 5 from enteric fever.

Nice.—Month of July, 1899. Census population, 108,227. Total number of deaths, 154, including diphtheria, 1; enteric fever, 4; measles, 3, and 13 from phthisis pulmonalis.

Roubaix.—Month of July, 1899. Estimated population, 126,721.